REMARKS

Claims 1-10 and 25-30 are pending in the present application. Claim 4 has been allowed; and claims 1, 25 and 28 have been amended. Reconsideration of the claims is respectfully requested. Applicants thank the Examiner for the interview conducted on October 5, 2004. During the interview, the following points were discussed:

I. 35 U.S.C. § 112, Second Paragraph

The examiner has rejected claims 25-30 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter, which applicants regard as the invention. This rejection is respectfully traversed.

Claim 25 has been amended to explicitly state that the hardware resource is not included in any of the subsets of resources. Therefore the rejection of claims 25-30 under 35 U.S.C. § 112, second paragraph has been overcome.

II. 35 U.S.C. § 103, Obviousness

The examiner has rejected claims 1-3, 5-10, 25-27, and 29-30 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application No. 2002/0016892 A1 to Zalewski et al. (hereinafter Zalewski) in view of U.S. Patent No. 6,075,938 to Bugnion et al. (hereinafter Bugnion). This rejection is respectfully traversed for the reasons set forth below.

With respect to the rejection of claim 1, the Office Action states the following:

> Zalewski...fails to explicitly teach that the hypervisor emulates shared resources and provides a virtual copy of the shared resources to each of the plurality of logical partitions. However, Bugnion teaches emulating shared resources and providing a virtual copy of the shared resources to the partitions (col. 7, lines 6-12 and lines 43-46). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of emulating shared resources and providing a virtual copy of the shared resources to the partitions in order to share major data structures so that memory overhead can be reduced (see Abstract and col. 7, lines 38-48).

Office Action dated 7/8/2004, Page 3.

Applicants respectfully disagree. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of

ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.... Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art." *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). See also *In re Sneed*, 710 F.2d 1544, 1550, 218 USPQ 385, 389 (Fed. Cir. 1983) ("[I]t is not necessary that the inventions of the references be physically combinable to render obvious the invention under review."); and *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973) ("Combining the teachings of references does not involve an ability to combine their specific structures."). However, the claimed combination cannot change the principle of operation of the primary reference or render the reference inoperable for its intended purpose. See MPEP § 2143.01.

If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

In this particular case, no suggestion or motivation exists, either in Zalewski or Bugnion or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings, nor would a reasonable expectation of success exist.

Zalewski describes a logically partitioned system for dynamically assigning resources to different partitions. For example, Figure 2 of Zalewski shows the following:

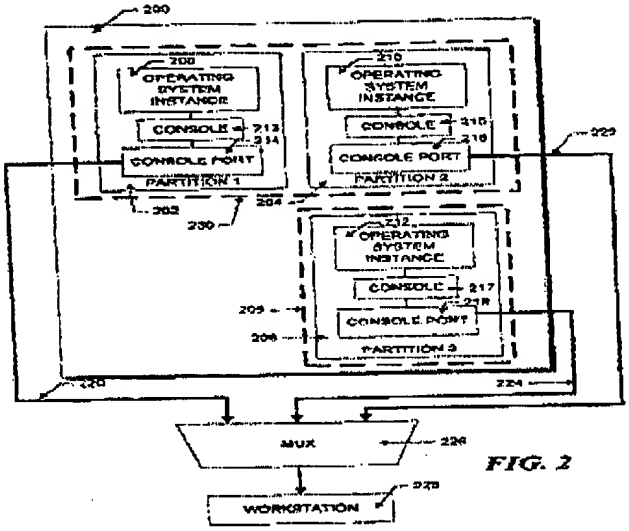


FIG. 2

The system described by Zalewski includes a plurality of partitions that each execute a respective single copy of an operating system. Hardware components are allocated to allow concurrent execution of multiple operating system instances by a console program. Each console program is connected with a console port, such as a serial line port, or the like (Paragraphs 0033, 0034, 0035, and 037). However, Zalewski provides no description or suggestion for emulating shared resources nor for providing a virtual copy of the shared resources to partitions within the system.

Furthermore, Zalewski actually teaches away from virtualizing or emulating an allocable resource to multiple partitions as in the presently claimed invention. For example, Zalewski states the following:

> The console program *does not virtualize* the system resources, that is, it does not create any software layers between the running operating systems 208, 210, and 212 and the physical hardware, such as memory and I/O units...

Zalewski, Paragraph 0034, in part.

Conversely, Bugnion describes a system of virtual machines that run operating systems on scalable multiprocessor machine. The virtual machines share major data structures such as operating system code and file system buffer caches. A virtual machine monitor is deployed between the system hardware and operating system. The system described by Bugnion relies on virtualization of *all* system resources. For example, Bugnion recites the following:

> The unique virtual machine monitor of the present invention *virtualizes all the resources* of the machine, exporting a more conventional hardware interface to the operating system. (*emphasis added*).

Bugnion, Column 4, Lines 25-28

> Disco runs multiple independent virtual machines simultaneously on the same hardware by *virtualizing all the resources* of the machine. (*emphasis added*).

Bugnion, Column 9, Lines 24-26

Thus, Bugnion explicitly states that all system resources are virtualized, while Zalewski describes a system in which none of the system resources are virtualized. No suggestion or motivation, either in Zalewski or Bugnion, to modify the respective reference or to combine reference teachings exists. In fact, Zalewski and Bugnion clearly teach against one another. The proposed modification would render Zalewski unsatisfactorily modified for its intended purpose (a system with no virtualized resources), and thus no suggestion or motivation to make the proposed modification (a system in which all resources are virtualized) exists, and such a modification would change the principle of operation of Zalewski - thus the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984); *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

For the foregoing reasons, Applicants submit that claim 1 is patentable over Zalewski in view of Bugnion, and such a notice is respectfully requested.

Independent claim 25 recites similar features as claim 1 and was rejected for the same reasons as claim 1. Therefore, the same distinctions between Zalewski and Bugnion and the claimed invention in claim 1 apply for claim 25. For the reasons described above, Zalewski and Bugnion do not render the claims *prima facie obvious*. Hence, Zalewski and Bugnion fail to obviate the present invention as recited in claims 1 and 25. Since claims 2-3, and 5-10 depend from claim 1, and claims 26-27 and 29-30 depend from claim 25, the same distinctions between Zalewski and Bugnion and the claimed invention in independent claims 1 and 25 apply for these claims. Additionally, claims 2-3, 5-10, 26-27, and 29-30 claim other additional combinations of features not suggested by Zalewski or Bugnion. Consequently, it is respectfully urged that the rejection of claims 1-3, 5-10, 25-27, 29 and 30 under 35 U.S.C. § 103(a) as being

unpatentable by Zalewski in view of Bugnion have been overcome, and such a notice is respectfully requested.

III. Objection to Claims

The Office Action has stated that claim 28 was objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. In response, claim 28 have been rewritten to include the limitations of base claim 25 to overcome this objection and is now in condition for allowance.

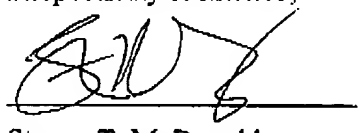
IV. Conclusion

It is respectfully urged that the subject application is patentable over Zalewski and Bugnion and is now in condition for allowance.

The examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

DATE: October 06, 2004

Respectfully submitted,



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